

may increase the 5 mile per hour over-speed restriction only with approval of FRA and based upon verifiable data and research.

(k) A railroad operating a train with a brake system that includes dynamic brakes shall adopt and comply with specific knowledge, skill, and ability criteria to ensure that its locomotive engineers are fully trained in the operating rules prescribed by paragraph (j) of this section. The railroad shall incorporate such criteria into its locomotive engineer certification program pursuant to Part 240 of this chapter.

#### **§ 232.111 Train handling information.**

(a) A railroad shall adopt and comply with written procedures to ensure that a train crew employed by the railroad is given accurate information on the condition of the train brake system and train factors affecting brake system performance and testing when the crew takes over responsibility for the train. The information required by this paragraph may be provided to the locomotive engineer by any means determined appropriate by the railroad; however, a written or electronic record of the information shall be maintained in the cab of the controlling locomotive.

(b) The procedures shall require that each train crew taking charge of a train be informed of:

(1) The total weight and length of the train, based on the best information available to the railroad;

(2) Any special weight distribution that would require special train handling procedures;

(3) The number and location of cars with cut-out or otherwise inoperative brakes and the location where they will be repaired;

(4) If a Class I or Class IA brake test is required prior to the next crew change point, the location at which that test shall be performed; and

(5) Any train brake system problems encountered by the previous crew of the train.

### **Subpart C—Inspection and Testing Requirements**

#### **§ 232.201 Scope.**

This subpart contains the inspection and testing requirements for brake systems used in freight and other non-passenger trains. This subpart also contains general training requirements for railroad and contract personnel used to perform the required inspections and tests.

#### **§ 232.203 Training requirements.**

(a) Each railroad and each contractor shall adopt and comply with a training, qualification, and designation program for its employees that perform brake system inspections, tests, or maintenance. For purposes of this section, a “contractor” is defined as a person under contract with the railroad or car owner. The records required by this section may be maintained either electronically or in writing.

(b) As part of this program, the railroad or contractor shall:

(1) Identify the tasks related to the inspection, testing, and maintenance of the brake system required by this part that must be performed by the railroad or contractor and identify the skills and knowledge necessary to perform each task.

(2) Develop or incorporate a training curriculum that includes both classroom and “hands-on” lessons designed to impart the skills and knowledge identified as necessary to perform each task. The developed or incorporated training curriculum shall specifically address the Federal regulatory requirements contained in this part that are related to the performance of the tasks identified.

(3) Require all employees to successfully complete a training curriculum that covers the skills and knowledge the employee will need to possess in order to perform the tasks required by this part that the employee will be responsible for performing, including the specific Federal regulatory requirements contained in this part related to

the performance of a task for which the employee will be responsible;

(4) Require all employees to pass a written or oral examination covering the skills and knowledge the employee will need to possess in order to perform the tasks required by this part that the employee will be responsible for performing, including the specific Federal regulatory requirements contained in this part related to the performance of a task for which the employee will be responsible for performing;

(5) Require all employees to individually demonstrate “hands-on” capability by successfully applying the skills and knowledge the employee will need to possess in order to perform the tasks required by this part that the employee will be responsible for performing to the satisfaction of the employee’s supervisor or designated instructor;

(6) Consider training and testing, including efficiency testing, previously received by an employee in order to meet the requirements contained in paragraphs (b)(3) through (b)(5) of this section; provided, such training and testing can be documented as required in paragraph (e) of this section;

(7) Require supervisors to exercise oversight to ensure that all the identified tasks are performed in accordance with the railroad’s written procedures and the specific Federal regulatory requirements contained in this part;

(8) Require periodic refresher training at an interval not to exceed three years that includes classroom and “hands-on” training, as well as testing. Efficiency testing may be used to meet the “hands-on” portion of this requirement; provided, such testing is documented as required in paragraph (e) of this section; and

(9) Add new brake systems to the training, qualification and designation program prior to its introduction to revenue service.

(c) A railroad that operates trains required to be equipped with a two-way end-of-train telemetry device pursuant to Subpart E of this part, and each contractor that maintains such devices shall adopt and comply with a training program which specifically addresses the testing, operation, and maintenance of two-way end-of-train devices

for employees who are responsible for the testing, operation, and maintenance of the devices.

(d) A railroad that operates trains under conditions that require the setting of air brake pressure retaining valves shall adopt and comply with a training program which specifically addresses the proper use of retainers for employees who are responsible for using or setting retainers.

(e) A railroad or contractor shall maintain adequate records to demonstrate the current qualification status of all of its personnel assigned to inspect, test, or maintain a train brake system. The records required by this paragraph may be maintained either electronically or in writing and shall be provided to FRA upon request. These records shall include the following information concerning each such employee:

(1) The name of the employee;

(2) The dates that each training course was completed;

(3) The content of each training course successfully completed;

(4) The employee’s scores on each test taken to demonstrate proficiency;

(5) A description of the employee’s “hands-on” performance applying the skills and knowledge the employee needs to possess in order to perform the tasks required by this part that the employee will be responsible for performing and the basis for finding that the skills and knowledge were successfully demonstrated;

(6) A record that the employee was notified of his or her current qualification status and of any subsequent changes to that status;

(7) The tasks required to be performed under this part which the employee is deemed qualified to perform; and

(8) Identification of the person(s) determining that the employee has successfully completed the training necessary to be considered qualified to perform the tasks identified in paragraph (e)(7) of this section.

(9) The date that the employee’s status as qualified to perform the tasks identified in paragraph (e)(7) of this section expires due to the need for refresher training.

(f) A railroad or contractor shall adopt and comply with a plan to periodically assess the effectiveness of its training program. One method of validation and assessment could be through the use of efficiency tests or periodic review of employee performance.

**§ 232.205 Class I brake test-initial terminal inspection.**

(a) Each train and each car in the train shall receive a Class I brake test as described in paragraph (b) of this section by a qualified person, as defined in § 232.5, at the following points:

(1) The location where the train is originally assembled (“initial terminal”);

(2) A location where the train consist is changed other than by:

(i) Adding a single car or a solid block of cars;

(ii) Removing a single car or a solid block of cars;

(iii) Removing cars determined to be defective under this chapter; or

(iv) A combination of the changes listed in paragraphs (a)(2)(i) through (a)(2)(iii) of this section (See §§ 232.209 and 232.211 for requirements related to the pick-up of cars and solid blocks of cars en route.);

(3) A location where the train is off air for a period of more than four hours;

(4) A location where a unit or cycle train has traveled 3,000 miles since its last Class I brake test; and

(5) A location where the train is received in interchange if the train consist is changed other than by:

(i) Removing a car or a solid block of cars from the train;

(ii) Adding a previously tested car or a previously tested solid block of cars to the train;

(iii) Changing motive power;

(iv) Removing or changing the ca-boose; or

(v) Any combination of the changes listed in paragraphs (a)(5) of this section.

(A) If changes other than those contained in paragraph (a)(5)(i)–(a)(5)(v) of this section are made to the train consist when it is received in interchange and the train will move 20 miles or less, then the railroad may conduct a

brake test pursuant to § 232.209 on those cars added to the train.

(B) [Reserved]

(b) A Class I brake test of a train shall consist of the following tasks and requirements:

(1) Brake pipe leakage shall not exceed 5 psi per minute or air flow shall not exceed 60 cubic feet per minute (CFM).

(i) *Leakage Test.* The brake pipe leakage test shall be conducted as follows:

(A) Charge the air brake system to the pressure at which the train will be operated, and the pressure at the rear of the train shall be within 15 psi of the pressure at which the train will be operated, but not less than 75 psi, as indicated by an accurate gauge or end-of-train device at the rear end of train;

(B) Upon receiving the signal to apply brakes for test, make a 20-psi brake pipe service reduction;

(C) If the locomotive used to perform the leakage test is equipped with a means for maintaining brake pipe pressure at a constant level during a 20-psi brake pipe service reduction, this feature shall be cut out during the leakage test; and

(D) With the brake valve lapped and the pressure maintaining feature cut out (if so equipped) and after waiting 45–60 seconds, note the brake pipe leakage as indicated by the brake-pipe gauge in the locomotive, which shall not exceed 5 psi per minute.

(ii) *Air Flow Method Test.* When a locomotive is equipped with a 26-L brake valve or equivalent pressure maintaining locomotive brake valve, a railroad may use the Air Flow Method Test as an alternate to the brake pipe leakage test. The Air Flow Method (AFM) Test shall be performed as follows:

(A) Charge the air brake system to the pressure at which the train will be operated, and the pressure at the rear of the train shall be within 15 psi of the pressure at which the train will be operated, but not less than 75 psi, as indicated by an accurate gauge or end-of-train device at the rear end of train; and

(B) Measure air flow as indicated by a calibrated AFM indicator, which shall not exceed 60 cubic feet per minute (CFM).